

Application Serial No. 09/811,028  
Customer No.: 26021  
Reply to Office Action dated 10/07/2003

PATENT  
1991-174 (81841.0154)

### REMARKS/ARGUMENTS

Claim 1 is amended. Claims 1-24 are pending in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested. Please note that the following discussion cites the language of the instant application by paragraph and page numbers according to the publication 2002/0131895.

#### Claim Rejection Under 35 U.S.C. § 103

Claims 1-24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,219,529 to Tersteeg *et al.* (the '529 patent) in view of U.S. Patent No. 4,363,245 to Schmid (the '245 patent). This rejection is respectfully traversed.

The present invention is directed to rotary incubation stations that have a unique spur gear-driven two-wheel design. The primary wheel is an incubation and storage wheel. The secondary wheel is a wash and read wheel (page 1, §9). As explained by the instant specification, the two-wheel design "creates a very compact area for incubation storage, which requires less surface area for thermal control" and "provides fast access, because the incubation and storage wheel needs only to rotate limited degrees for full access of the vessels stored on the wheel" (page 1, §14).

Unlike incubation wheels of prior art that are rotated by a center pivot shaft, which does not provide a sufficient outside edge support and is subject to belt wear problems (page 1, §4), the wheels of the present invention are driven by spur gear driving mechanism (page 2, §33). The inside wheel has spur gear teeth on its outer periphery which are engaged with a spur gear driver driven by a rotary actuator. The outside wash and read wheel has spur gear teeth on its inner periphery which are engaged with a spur gear driver driven by a rotary actuator (page 2, §§33-34). The spur gear driver mechanisms of the present invention allow

rotation of the inside and outside wheel independently from each other (page 2, §35).

Accordingly, all three independent claims 1, 11, and 19 require two wheels, an outside rotary wheel having a plurality of nesting locations for washing and reading vessels and inside rotary wheel having a plurality of nesting locations for incubation and storage of vessels. Additionally, all three independent claims 1, 11, and 19 require a first spur gear means having a plurality of spur gear teeth on the inner periphery of the outside rotary wheel and a second spur gear means with a plurality of spur gear teeth on the outer periphery of the inside rotary wheel. The first and the second spur gear means provide an independent rotation of the inside and the outside rotary wheels.

Nothing in the '529 patent teaches or suggests a two-wheel incubation station, much less a two-wheel incubation station with the claimed position of gear teeth and independently rotating wheels. Instead, the '529 patent teaches an incubator with a rotor 64 that serves as a circular conveyor for moving test slides in a rotary pass (column 4, lines 40-44). Slides are loaded into and unloaded from the incubator in "a substantially straight-line movement" (column 4, lines 44-46).

The Examiner appears to believe that the '529 patent teaches a two-wheel incubation station. In particular, the Examiner stated on page 3, first paragraph, of the Office Action that the '529 patent describes "[a]n inside rotary wheel for nesting washing and reading vessels" and "[a]n outside rotary wheel for incubation and storage of vessels." However, the Examiner did not point out specific elements of the '529 patent to which the Examiner refers as outside and inside rotary wheels. The only two rotary wheels that applicants have identified in the '529 patent are 1) an encoder wheel 106 that provides a means for locating a particular member 98 on rotor 64 (column 4, line 57 – column 5, line 2) and 2) worm wheel 118 for precise

positioning of a slide holding means (column 5, lines 15-21). However, neither of these vertical wheels is capable of carrying any vessels. Furthermore, both wheels are driven by a single shaft 96 (column 4, lines 67-68, and column 5, lines 9-10) and, thus, cannot rotate independently from each other. Finally, as noted by the Examiner, the '529 patent does not teach or suggest first and second spur gears. Instead, as discussed above, the '529 patent utilizes shaft 96 to advance the conveyer.

The '245 patent does not overcome the defects of the '529 patent and is not relied by the Examiner for such. The Examiner cites the '245 patent for the teaching of first and second spur gears. Nothing in the '245 patent teaches or suggests a two-wheel incubation station comprising outside rotary wheel having a plurality of nesting locations for washing and reading vessels and inside rotary wheel having a plurality of nesting locations for incubation and storage of vessels. an inside rotary wheel positioned inside of an outside rotary wheel. The sampling apparatus of the '245 patent contains several disks, including a sample carrier disk 16 (column 2, line 33), a central plate 60 for separating sample carrier disk and the lower arm assembly (column 3, lines 37-49), and cam disk 74 for advancing carrier disk (column 3, lines 60-67), but only the sample carrier disk is adapted to carry vessels. Thus, the '245 patent does not teach or suggest a rotary incubation station comprising two rotary wheels capable of carrying vessels.

The Examiner cites the '245 patent for teaching “[t]he first and second spur gears drivingly engaged with the output shaft,” which allow “rotation of a primary housing along with the rotation of a subhousing.” However, the '245 patent does not teach or suggest a set of two gear means for rotating an outside and an inside rotary wheels, much less a first spur gear means having a plurality of spur gear teeth on the inner periphery of the outside rotary wheel and a second spur

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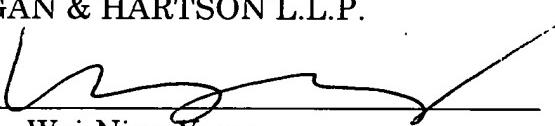
gear means with a plurality of spur gear teeth on the outer periphery of the inside rotary wheel.

The two-wheel design of the present invention combined with positioning of spur gear teeth on the inner periphery of the outside rotary wheel and on the outer periphery of the inside rotary wheel, is neither known from, nor rendered obvious by the combination of the '529 and the '245 patents. As explained above, the unique spur gear-driven two-wheel design of the rotary incubation station of the present invention results in a number of unexpected advantages, including more compact and simpler design than that of the '245 and the '529 patents.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (213) 337-6700 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,  
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